

THE ORTHOPTEROLOGICAL WORK OF MR. S. H. SCUDDER,
WITH PERSONAL REMINISCENCES.

BY ALBERT P. MORSE,

Wellesley, Mass.

In March, 1861, there appeared in the Proceedings of the Boston Society of Natural History a brief paper of nine pages "On the genus *Rhaphidophora* Serville, with descriptions of four species from the caves of Kentucky and the Pacific Coast," by Samuel H. Scudder of Cambridge and Boston. This was the first paper on orthoptera published by Mr. Scudder. It was followed in November of the succeeding year by an article of 80 pages in the Boston journal of natural history entitled "Materials for a monograph of the North American orthoptera, including a catalogue of the New England species," which treated of 115 species, including 78 from New England. For forty years from that date, until 1902, when Mr. Scudder definitely abandoned scientific work in consequence of increasing physical infirmities, he was *facile princeps* of American authorities on orthoptera and one of the foremost in the world, a position due primarily to great natural ability and excellent equipment fortunately associated with adequate time and means to seize the opportunities presented.

I have been unable to learn what particular reason led him to choose this group of insects for special study; but it is evident from the preface of the "Materials" that even at that date he had acquired considerable collections and had devoted much study to the group.

A few short papers on the order came from him during the next five years and in 1868 appeared his "Catalogue of the Orthoptera of North America described previous to 1867," a work of 110 pages including an extensive bibliography, prepared for and published by the Smithsonian Institution;—this work formed for many years a point of departure for students of the group in America. From this time until 1880 his activity in study and publication on the order was very great, papers appearing in rapid succession, on a wide variety of topics—descriptive, systematic, anatomical, and biological, including stridulation and

distribution. Between 1880 and 1890 his energies were devoted chiefly to other groups and subjects—fossil insects, and the preparation and publication of his great work on butterflies—but for the ten years from 1891 to 1901 his orthopterological activity was incessant, resulting in nearly 70 titles in the order, including months of work on the “Revision of the Melanopli,” and terminating practically with the preparation, jointly with Professor Cockerell, of the “First list of the orthoptera of New Mexico.” Would that his strength might have been as were his days, that he might have been spared the afflictions of his later years: how much more he would have given us!

It would be superfluous to name here even the more important of his systematic papers—every student of the order in America is acquainted with them perforce and a full bibliography up to the end of 1900 will be found in his “Index to North American orthoptera” (*Occas. papers Boston Soc. Nat. Hist.*, Vol. 6, 1901) which is practically a bringing-up to the end of the century of his “Catalogue” of 1868. Mention should be made in this connection, however, of his “Catalogue of the described Orthoptera of the United States and Canada” (*Proc. Davenport Acad. Nat. Sci.*, Vol. 18, 1900) which is a list of the species described up to that time; also to the scholarly “Revision of the Orthopteran group Melanopli,” a work already alluded to, which involved a prodigious amount of labor and brought something like order out of the chaos which prevailed at the time in reference to this dominant group of North American Orthoptera; and also to the “Guide to the genera and classification of North American Orthoptera,” a most useful aid to the student of the order.

His studies were not confined solely to the North American members of the order but extended to those of all parts of the world. One hundred and twenty-two foreign species were described by him in his earlier period of activity (“List of exotic Orthoptera described by S. H. Scudder, 1868–1879,” etc.,—*Proc. Boston Soc. Nat. Hist.*, Vol. 27, pp. 201–218) and in later years the orthoptera of the Galapagos Islands and the Melanopli of the Old World and of South America received his attention.

Mr. Scudder did relatively little field work and that chiefly in his earlier years; but that he was equally at home in the field as in the laboratory is fully attested by his notes on the distribu-

tion and stridulation of the orthoptera and the habits of butterflies. Throughout his writings, from the earliest period to the very latest, it is evident that the biology and distribution of these insects appealed strongly to him; two special papers only need be mentioned in this connection: "The distribution of insects in New Hampshire" and "Alpine Orthoptera." His last and most complete article on stridulation will be found in the 23d annual report of the Entomological Society of Ontario (1893), being practically a revision of his earlier papers combined with subsequent observations.

Mr. Scudder's systematic articles on orthoptera were written from the point of view of the specialist, and for specialists, and in the absence of an adequate technical introduction to the order are sometimes difficult for the unaided student. It is to be regretted that he did not prepare such an introduction as is needed to fill the hiatus between the novice and the expert.

In systematic work he was often too far in advance of his time for his views to be popular or fully appreciated by his contemporaries. This was notably the case in the Lepidoptera where his apparently undue splitting-up of genera seemed to them unjustifiable, his discrimination of species being more generally recognized. Yet today his views on genera are largely accepted. The publication of his North American Ceuthophili with its wealth of new species caused a gasp of protest at standards called "Scudderian," yet there are probably even more species in the group than were recognized by Mr. Scudder. In the Orthoptera I have often thought that his judgment on genera was more accurate than on species, both in his earlier and later works. In estimating species he was more likely to describe the same one twice without apparent justification than to fail in detecting a new form, but there are occasional instances of tangled nomenclature due to the latter type of error.

The material which Mr. Scudder studied came to him from various sources: a limited portion was collected in person, particularly most of his early New England specimens; a part was acquired by purchase and exchange—by these means he secured much from foreign localities as well as from the west; another part was obtained by acting as official expert in reporting upon the specimens collected by the government surveys of the western

territories; and finally, in later years, gifts, exchanges, and loans from his colleagues supplied him with a large amount. Being for many years almost the only authority on the group he was naturally the recipient of a very large proportion of the new forms discovered, so that his collection inevitably became, with his continued activity and relative absence of competitors, extremely rich in types. It needs revision in many particulars, still contains much unworked material, and is losing its relative importance owing to the cessation of activity directly connected with it and the development of collections elsewhere, but historically it must remain a most important collection of American Orthoptera.

Mr. Scudder worked rapidly—too rapidly for accurate results sometimes; but in no other way could he have accomplished so much. Once, on remarking to him in connection with some of my own studies that if one worked rapidly he was liable to make errors, he rejoined with emphasis, "Sure to, sure to!" In the early period of his activity he was perhaps prone to draw conclusions from too limited a supply of material, but that was the custom of the time quite as much as of the man. In later years, with long series before him, he often worked with selected examples of the species he had tentatively discriminated, instead of with the series as a whole. This method, though economizing time, provided the possibility of numerous errors, from which he did not wholly escape. No one, however, was ever more ready to acknowledge and rectify mistakes when called to his attention.¹

Mr. Scudder frequently said that he was unable to draw, and regretted his inability to express by this means the characters which he observed. Perhaps the fact that he felt a difficulty, thus acknowledged, may account in part for that experienced by others in following some of his work.

No systematist can judge correctly the work of another without actually studying the material upon which his conclusions were based and bearing in mind his experience and personal knowledge at the time. It is a genuine pleasure to follow a great leader, one

¹It seems well to take this opportunity to correct the erroneous measurements of certain species described by Mr. Scudder in his "Materials" which have caused much perturbation among later workers. He once told me that in measuring he then used a scale other than the inch, which needed correction to give the right dimensions. Some of the figures failed to receive correction and need to be multiplied by two to give the right measurement. (See *Gryllus* spp., *Tettix triangularis*.)

masterly in execution, inspiring in word and deed; but in science—the pursuit of truth—it must not be done blindly, it is necessary to preserve an unbiased attitude and accept or reject conclusions independently.

Personally Mr. Scudder was the highest type of a scholarly gentleman: a broad-minded, dignified, cultivated, courteous savant, in whom were united the finest attributes of the scholar and man of science; yet genial withal, and most kind and helpful to the inquiring student. Well do I remember the cordial welcome he extended to me, an unknown quantity, in response to the rat-a-tat of his laboratory knocker,—that quaint conceit, a knocker in the form of a locust, beating upon the door with its hind legs!—when I first called upon him, as well as the many delightful hours spent there afterward in the study of his collection. His unrivaled library, rich in everything entomological and as complete as possible in his specialty; his collection, unequalled in America, containing specimens from the ends of the earth; and most of all the man himself, well-versed in many branches of the science, made his laboratory the Mecca of every entomologist, resident or migrant, native or foreign.

In those days (the 90's) the Cambridge Entomological Club met there, its members few but determined to keep the lamp alive and maintain the high traditions of an earlier time. Mr. Scudder was a host in himself; Roland Hayward, now with the great majority, was very regular in attendance; Mr. Henshaw came frequently, less often in the later years; Messrs. Bowditch and Emerton, still with us, occasionally appeared; rarely, birds of passage visiting the Museum of Comparative Zoölogy or Mr. Scudder himself, among them Dr. Geo. H. Horn, Prof. Lawrence Bruner, and other entomologists of note; and among the younger men, while resident in Cambridge, I recall especially J. W. Folsom and W. L. Tower, both of whom have since made their mark.

This period was at the flood tide of Mr. Scudder's productivity on the orthoptera. Never a meeting passed but that he had something to communicate;—additional or newly worked material, new discoveries based on his studies, or notes of interest gleaned from his wide reading of entomological literature. Those were indeed, golden days

“When every morning brought a noble chance,
And every chance brought out a noble”

theme from Mr. Scudder's pen.

In the spring of 1897 Mr. Scudder made a proposal which led to my spending the summer on the Pacific Coast in search of the Orthoptera of that region. On the way out I stopped for a few days in southern New Mexico with Professor Cockerell and collected there. The material thus secured, amounting to several thousand specimens, was shared between us, the bulk of it remaining in my collection, but was determined almost wholly by Mr. Scudder, though the Xiphidiini and Tettiginæ were worked up by me at his special request. No report on the collection as a whole has ever been prepared but upon it were based in large part a series of short papers by Mr. Scudder during the late 90's, papers which form a very considerable contribution to the knowledge of the orthoptera of that region. The weekly, sometimes daily, postal card bulletins which Mr. Scudder sent me during the process of identification, announcing progress and new discoveries, remain among my treasured mementoes of a delightful and all too brief association with one of the truly great men of his time.

SYNONYMICAL, AND OTHER NOTES ON THE TIPULIDÆ (DIPTERA).

BY CHARLES P. ALEXANDER,
Ithaca, N. Y.

The question as to whether, or not, the name *Limnophila*, Macquart (Nat. Hist. Dipt., Vol. I, p. 95, 1834) can be retained for the well-known genus of crane-flies, has faced every student of *Tipulidæ* since the time of Rondani. Rondani in his "Prodromus Dipterol. Italicæ" (Corrigenda, IV, 1861) stated that this generic name was preoccupied in the Mollusca and proposed the new name, *Limnomya*.

A careful study of conchological literature failed to find any mention of a *genus* *Limnophila*, but constant reference to a sub-order of that name. G. W. Tryon, Jr., "Structural and Systematic